

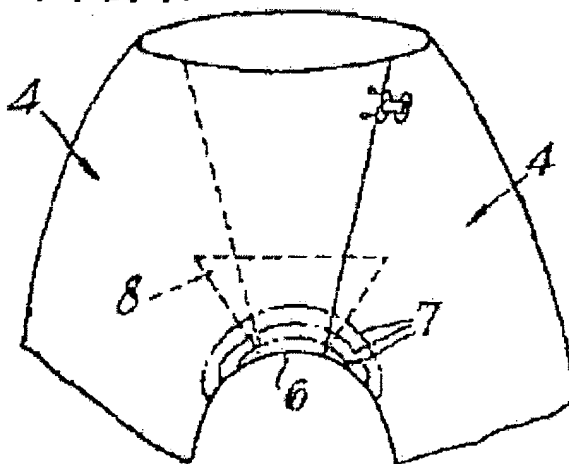
**Improvements in or relating to protective trousers**

**Patent number:** GB976890  
**Publication date:** 1964-12-02  
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**Applicant:** BELL S ASBESTOS AND ENGINEERIN  
**Classification:**  
- international:  
- european: A41D1/06  
**Application number:** GB19620044961 19621128  
**Priority number(s):** GB19620044961 19621128

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**Abstract of GB976890**

976,890. Protective trousers. BELL'S ASBESTOS & ENGINEERING Ltd. Nov. 26, 1963 [Nov. 28, 1962], No. 44961/62. Heading A3V. Protective trousers of aluminized canvas or other similarly stiff material prone to tearing have overlapping front panels 4 and a curved join 6 at the crutch. The panels are stitched together and optionally to a reinforcing panel 8 by arcuate lines of stitching 7.

**FIG. 4.**

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DRAWINGS ATTACHED.

Inventor:—CHARLES STANLEY NELMS.

Date of filing Complete Specification : Nov. 26, 1963.

Application Date : Nov. 28, 1962. No. 44961/62.

Complete Specification Published : Dec. 2, 1964.

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976,890



Index at Acceptance:—A3 V(1A4A3, 1A5X, 5K, 5M2B, 6A4, 7BX).

International Classification :—A 41 d.

## COMPLETE SPECIFICATION.

## Improvements in or relating to Protective Trousers.

We, BELL'S ASBESTOS AND ENGINEERING LIMITED, of Bestobell Works, Slough, Buckinghamshire, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to protective trousers made from aluminised canvas or a fabric of similar stiffness.

Protective trousers are normally formed from several shaped panels which are stitched together. One of the disadvantages with aluminised canvas and similar fabrics is that when the panels are stitched together the needle, in making the perforations, increases the risk of tearing at certain points. For example, the crutch portion is particularly susceptible to tearing because previously this has been formed of panels which join together at the crutch at an acute angle.

It is the main object of this invention to provide protective trousers in which the tendency to tear at the crutch portion is minimised.

According to the present invention there is provided protective trousers made of aluminised canvas or a fabric of similar stiffness which is prone to tearing, in which a plurality of panels are stitched together to form an overlapping front and the joining line of the crutch portion is of smoothly changing contour.

In order that the invention may more readily be understood, one embodiment thereof will now be described, by way of example, only, with reference to the accompanying drawing, in which:—

Fig. 1 shows a pattern of a trouser front  
[Price 4s. 6d.]

panel for constructing protective trousers which are already known;

Fig. 2 is a fragmentary perspective view of protective trousers of well known form utilising the panel of Fig. 1;

Fig. 3 shows a pattern of a trouser front panel for constructing protective trousers in accordance with the invention;

Fig. 4 is a fragmentary perspective view of protective trousers constructed in accordance with the invention utilising the panel of Fig. 3; and

Fig. 5 is a further fragmentary perspective view of protective trousers constructed in accordance with the invention.

Referring to the drawing it will be seen from Figs. 1 and 2 that the normal method of forming protective trousers made of aluminised canvas or a similar fabric is by forming two panels 1 which are stitched together forming a join at the crutch 2 at an acute angle 3. A crutch portion formed in this manner is very susceptible to tearing at the apex of the angle.

Referring now to Figs. 3 to 5, a panel 4 for trousers constructed in accordance with the invention is provided with a wrap across trouser front 5 and, as will be seen with reference to Fig. 4, when two such panels are stitched together the crutch portion 6 is of smoothly changing contour in the form of an inverted U. The overlapping front portions are fastened together by several lines of arcuate stitching 7 and, if desired, a further panel 8 as a reinforcement may be sewn into the crutch portion behind the other panels. The overlapping front portions may be fastened together by a press stud fitting 9 and a hook and eye fitting 10 and 11 respectively.

Apart from the advantage of protective trousers made according to the invention that the risk of tearing of the material is considerably minimised, the construction also  
5 allows for increased mobility which up to now has been an inherent disadvantage in clothing made from materials which will not stretch to any appreciable extent.

WHAT WE CLAIM IS:—

10 1. Protective trousers made of aluminised canvas or a fabric of similar stiffness which is prone to tearing, in which a plurality of panels are stitched together to form an overlapping front and the joining line of  
15 the crutch portion is of smoothly changing contour.

20 2. Protective trousers as claimed in Claim 1, in which the lower extremities of the overlapping front are fastened together by several lines of arcuate stitching, the

crutch portion being in the form of an inverted U.

3. Protective trousers as claimed in either Claim 1 or Claim 2, in which the  
25 crutch portion is formed of two overlapping panels with a reinforcement panel sewn into the crutch portion behind the other panels.

4. Protective trousers made of aluminised canvas or a fabric of similar stiffness which  
30 is prone to tearing, substantially as herein described with reference to Fig. 5 of the accompanying drawings.

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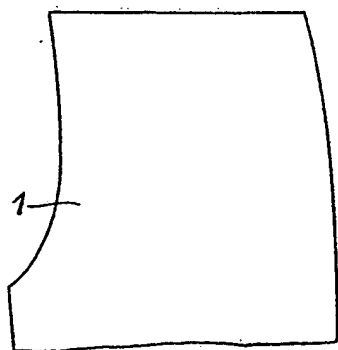


FIG. 1

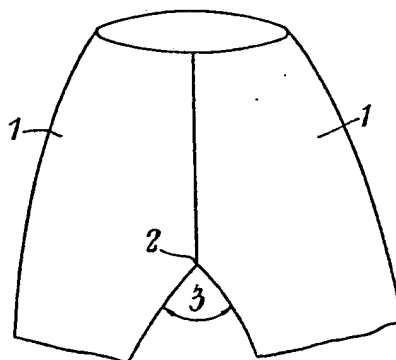


FIG. 2

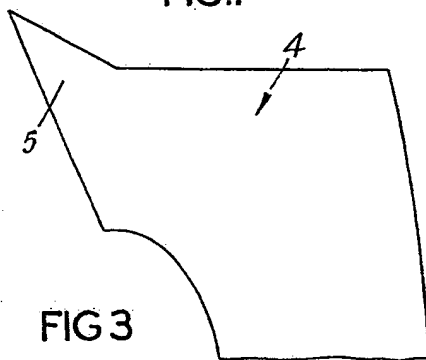


FIG. 3

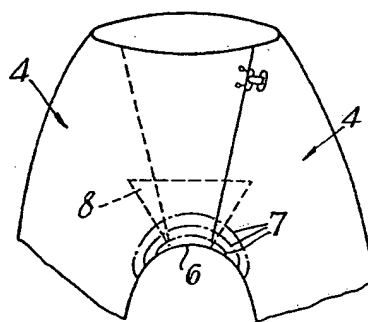


FIG. 4

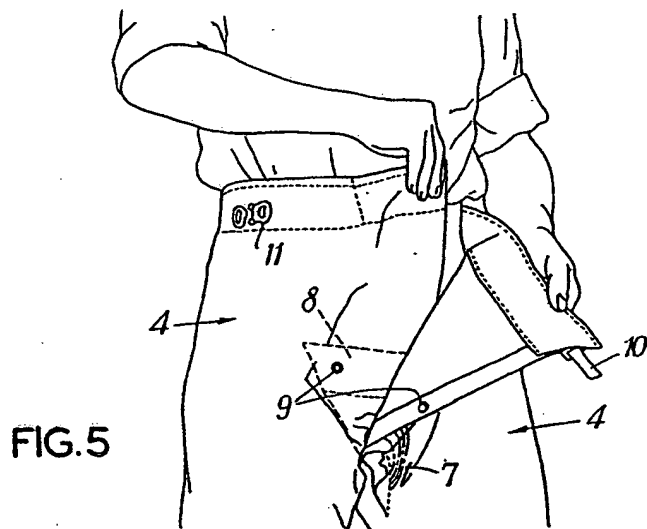


FIG. 5